

A NEW VENTURE IN SCHOOL MEDICAL INSPECTION

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SCHOOL medical inspection and nursing service in Detroit are under the supervision of the Department of Health.

The old time plan of part-time physicians making inspections was unsatisfactory in a number of particulars. Compensation was insufficient to excite the desired interest. Defects were not reported in a uniform manner. Supervision and checking of work was most difficult.

The primary object of school medical inspection is to find and overcome physical defects as early in the school life of the child as possible. The inspection of the entire school population annually is a task of such magnitude that it is rare to find a city where this is adequately done. Detroit has concentrated attention on the first-grade and special cases from other grades.

At present Detroit is testing out the plan of having the teachers make preliminary examinations of the pupils, school medical inspectors checking only those referred to them, with no intention of converting teachers into physicians, but simply giving them the chance to acquire the information about children's health which an intelligent mother should have. In 1921 there were 60 nurses available, allowing one nurse to 2,500 pupils. Under the new system vaccination and diphtheria immunization are in the hands of four men specializing on this work, while disease diagnosis is in charge of eight men assigned to districts. Suspicious cases of disease are referred by nurses to the main office, and thence they are given out to the proper district physician. Examinations of physical defects are carried out by twelve men who work in teams of three, each team being

assigned to a district. Diagnosticians fit their work in with their private work, and vaccinators and physical examiners give half time, that is, from 8:30 to 11:30 each day.

There is no physician attached to a school; the clinics are conducted by the nurses; suspicious cases are excluded on nurses' recommendations, and diagnosticians notified. In visiting the homes diagnosticians find some minor afflictions, not communicable, but there is no indication that the nurses are missing any true cases of contagion.

A graded scale is used in marking defects. The marking of tonsils is done according to the following instructions:

00—Tonsils have been removed, the base of the tonsil bed is smooth, shows no tonsil, and child knows that it has been removed.

0—Normal, tonsil even with its adjacent pillar, or distinctly behind it.

1—Slightly enlarged or protruding slightly from its surrounding bed.

2X—Tonsil large enough to reach half way across the middle line of the mouth.

3X—Tonsil touching or almost touching its fellow on the opposite side.

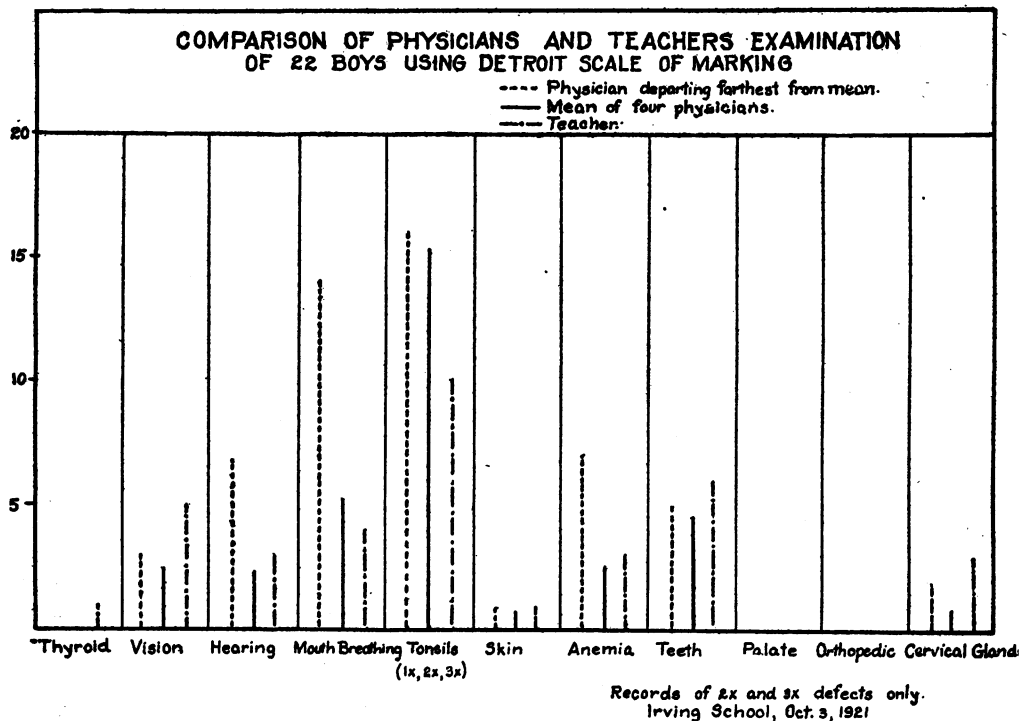
In case of infected tonsil add P. If a No. 1 tonsil is infected, add X to draw attention of nurse. (Count this as a defect.)

If there is a difference in the size of the two tonsils, record the worse condition.

It is to be understood that a tonsil marked X is the basis of a recommendation for examination by a private physician or clinic, the decision as to the removal of the tonsil being left to this subsequent examination.

Fourteen items are covered in the examination, and all are graded on the above basis. Only X cases are recognized as defects, and recommendation slips are sent home only for this class. With each examining team there is a squad nurse. The nurse attached to the school is always present at the examination, and these two, together with a teacher, take

CHART 1



notes while the physicians devote their entire attention to the examination.

Each physician is assigned a list of defects to look for. One observes mouth breathing, tonsils, teeth, palate, cervical glands and thyroid, another tests vision and hearing, and still a third observes heart, lungs, skin, anemia, orthopedic defects, and phimosis. The children line up and pass before these three, who call off their findings in terms of the scale, and the nurse or teacher makes entries on the children's cards. These details are forwarded to the central office, recommendation slips are made out to the parents, and the school nurse makes a record of all defects to be followed.

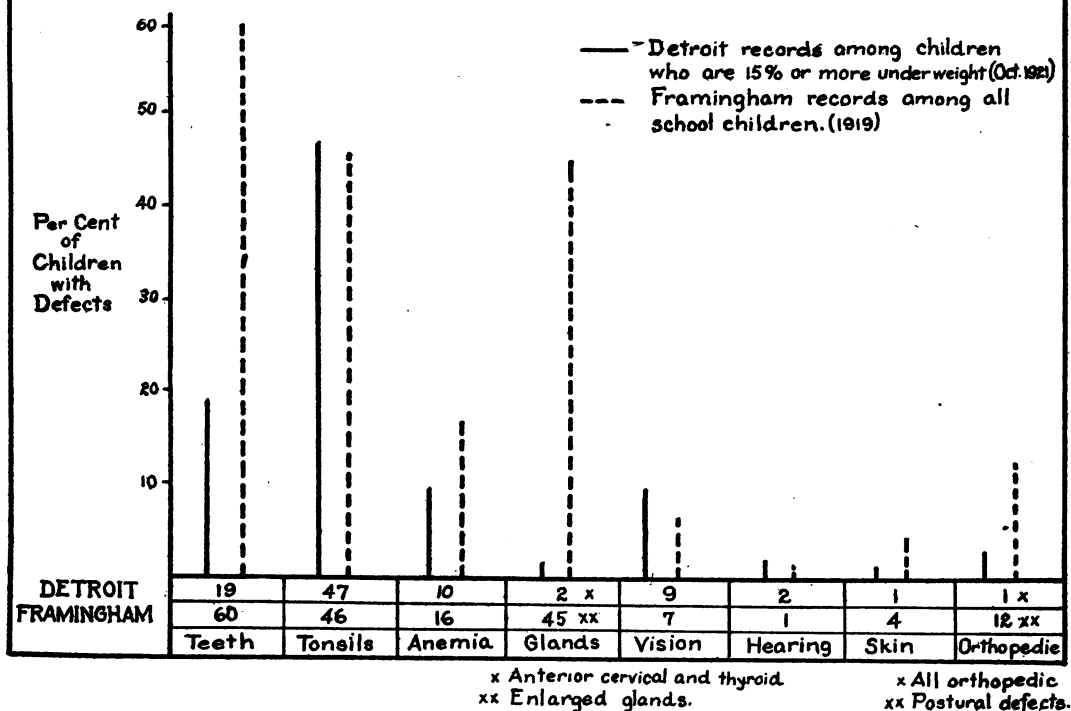
In the examination begun October 1, 1921, all children 15 per cent or more underweight were examined. No others were examined at this time. The next step is to begin all over again, this time examining all first-grade children and those of other grades recommended by

the nurse. The remainder of the time is spent on fifth-grade children, with no pretense of examining the entire school.

We are interested in securing accurate information so that the condition in one school may properly be compared with those in another. On the first day all 12 examiners came together, and the teams independently examined 22 boys who had previously been examined by teachers and graded in the same manner. The opinion of the teacher coincided very closely with the median opinion of the physicians (See Chart I.) In fact, the physician having the most extreme opinion showed far greater deviation from the median of all four physicians than the teacher. The necessity for having all physicians thoroughly familiar with the scale of marking and of reporting like defects by the same terms is shown by this test. For instance, in the grading of the 22 boys for anemia the physician on Squad 1 reported 2 cases; Squad 2, one case; Squad

CHART 2

COMPARISON OF PHYSICAL EXAMINATION OF SCHOOL CHILDREN IN DETROIT AND FRAMINGHAM



3, none; Squad 4, seven cases; the teacher 3 cases. One can readily appreciate the diversity of reports from schools if these physicians had been working independently in different sections of the city. In mouth-breathing, Squad 1 reported one case; Squad 2, five; Squad 3, two; Squad 4, fourteen cases; and the teacher, four cases. At the conclusion of this test the cases on which there was wide disagreement were brought before the four physicians concerned and reexamined. Discussion followed, and an agreement was reached as to how the children should be marked. The same test on another group was tried two weeks later with more harmonious results.

DISTRIBUTION OF DEFECTS ACCORDING TO DETROIT SCALE

At the time of writing, 4,056 children

in 80 schools have been examined, all of these children being 15 per cent or more underweight. The proportion of each type of defect is shown in the following table:

Defects	No.	Defects per 1000
Thyroid	76	18
Vision	368	91
Hearing	84	21
Mouth-breathing	374	92
Tonsils	1922	474
Teeth	782	193
Cervical Glands	52	13
Skin	50	12
Anemia	386	95
Deformed Palate	6	1
Cardiac	250	62
Lungs	148	37
Orthopedic	27	7
Phimosis	519 (boys)	209
(No. of boys, 2479.)		

The greatest item is tonsils, 47 per cent of this class of children showing either enlarged or infected tonsils. By defects

we refer only to X cases. The cases graded as 1, or slightly abnormal, are not classed as defects. Nineteen per cent of the group have defective teeth. There were 3,018 children, or 74.5 per cent, with at least one or more X defects.

To make these findings with this type of grading more intelligible, we have presented in chart form some of the results alongside of the findings reported from an examination of over 2,000 school-children without regard to weight, in Framington, Massachusetts, in 1919.

CHECKING THE TEACHERS' EXAMINATIONS

To test the feasibility of the teachers' examination, complete examinations have now been made by the teachers in three schools, representing about 2,500 children. The same children were later graded by the physicians. As a rule, the teacher reported more defects than the physicians or, in other words, she erred in the right direction.

If this plan is perfected, it would be the policy to have all children examined by the teachers at the opening of school.

There would be instituted a physical inventory week, in which the children would be graded, and then the medical teams would visit the schools and re-examine only those selected as having possible defects. Recommendation slips would be sent to parents in all cases in which the teachers' findings were confirmed by the physicians. The teachers are quite capable of grading thyroid, vision, hearing, mouth-breathing, tonsils, skin, anemia, teeth, palate, cervical glands and orthopedic defects, though they cannot examine for lung and heart affections.

The system is believed to constitute a marked step forward in this field of public health. Teachers would become intimately acquainted with the physical capabilities of their charges, as well as their mental capacities. The extension of this work would include the introduction of courses in physical examination into the normal and teachers' training schools. The Detroit Health Department is sufficiently impressed with the advantages of this program to warrant a continued study of the subject.



THE DETERMINATION OF THE VALUE OF CERTAIN SOAPS IN DISINFECTING WALL AND FLOOR SURFACES

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THESE experiments were performed in an attempt to determine definitely the germicidal value of certain soaps when subjected to actual conditions encountered in practical application.

The plan outlined and followed is to have an area made with certain ma-

terials resembling those found on walls and floors, protected by means of a glass cover in such a manner that extraneous organisms may be kept out. This area is to be inoculated with a definite quantity of test organisms, and is then subjected to the process of washing with the soap in question,